

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 07/05/2021

Reviewed on 07/05/2021

1 Identification

- **Product identifier**
- **Trade name:** Vario Silica Amino Acid F / F 10 ml
- **Catalogue number:** 00531609, 531600, 4531600
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).

- **Hazard pictograms**



GHS05



GHS07



GHS08



GHS09

- **Signal word** Danger

- **Hazard-determining components of labeling:**

disodium disulphite

bis(4-hydroxy-N-methylanilinium) sulphate

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Hazard statements

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H317 May cause an allergic skin reaction.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P260 Do not breathe dust.
- P280 Wear protective gloves/protective clothing/eye protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a doctor.
- P302+P352 If on skin: Wash with plenty of water.

- Other hazards** No further relevant information available.

3 Composition/information on ingredients

Chemical characterization: Mixtures

- Description:** Mixture of organic and inorganic compounds

Composition and Information on Ingredients:

Percent ranges are used due to the confidential product information.

CAS: 7681-57-4 EINECS: 231-673-0 Index number: 016-063-00-2 RTECS: UX8225000	disodium disulphite ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	60–70%
CAS: 55-55-0 EINECS: 200-237-1 Index number: 650-031-00-4 RTECS: SL8650000	bis(4-hydroxy-N-methylanilinium) sulphate ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	25–30%
CAS: 7758-98-7 EINECS: 231-847-6 Index number: 029-004-00-0 RTECS: GL 8800000	copper sulphate ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	0.1–<0.25%

- Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

- General information:** Immediately remove any clothing soiled by the product.

- After inhalation:** Supply fresh air; consult doctor in case of complaints.

After skin contact:

- Immediately rinse with plenty of water.
- If skin irritation or rash occurs: Get medical advice/attention.

After eye contact:

- Rinse opened eye for several minutes (at least 15 min) under running water.
- Call a doctor immediately.

After swallowing:

- Rinse out mouth and then drink 1-2 glasses of water.
- Seek medical treatment.

- Information for doctor:** Sulfites are strong sensitizers

Most important symptoms and effects, both acute and delayed

- gastric or intestinal disorders
- after swallowing:
- after inhalation:
- Irritation and corrosion
- resorption
- mucosal irritations, cough, breathing difficulty
- mucous membrane irritation
- allergic reactions
- burns

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after swallowing of large amounts:

sickness
vomiting
cardiovascular disorders
cyanosis
methaemoglobinaemia
cramps

- **Danger:**

Risk of serious damage to eyes.
risk of skin sensitization
Sulfites are strong sensitizers

- **Indication of any immediate medical attention and special treatment needed:**

Symptoms of poisoning may even occur after several hours.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Sulfur oxides (SO_x)

Nitrogen oxides (NO_x)

Sodium oxide

Carbon monoxide (CO) and carbon dioxide (CO₂)

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

- **Advice for emergency responders:**

Mount respiratory protective device.

Protective equipment: see section 8

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**

- **Advice on safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

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- **Hygiene measures:**

Do not inhale dust / smoke / mist.
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Take off immediately all contaminated clothing.
 Wash hands before breaks and at the end of work.
 Do not eat, drink or smoke when using this product.

- **Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:**

Do not store together with acids.
 Store away from oxidizing agents.

- **Further information about storage conditions:**

Protect from heat and direct sunlight.
 Protect from exposure to the light.
 Store in dry conditions.
 Protect from humidity and water.

- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
 At this time, the other constituents have no known exposure limits.

CAS: 7681-57-4 disodium disulphite	
REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	Long-term value: 5 mg/m ³
EL (Canada)	Long-term value: 5 mg/m ³
EV (Canada)	Long-term value: 5 mg/m ³

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 See item 7.

- **Personal protective equipment:**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

- **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.

- **Recommended filter device for short term use:** Filter P2

- **Protection of hands:**

Protective gloves
 Preventive skin protection by use of skin-protecting agents is recommended.
 After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves**

Nitrile rubber, NBR
 Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

Value for the permeation: Level ≤ 1 (10 min)
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Tightly sealed goggles

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or any water course.

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9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**
- **Form / Physical state:** Powder
- **Color:** White
- **Odor:** Odorless
- **Odor threshold:** Not applicable.
- **pH-value (4 g/l) at 20°C (68°F):** 5.3
- **Melting point/freezing point:** Not determined.
- **Initial boiling point and boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gas):** The product is not combustible.
- **Ignition temperature:** Not applicable (solid).
- **Decomposition temperature:** > 150°C (> 302°F) (CAS 7681-57-4)
- **Auto-ignition temperature:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Flammability or explosive limits:**
- **Lower:** Not applicable.
- **Upper:** Not applicable.
- **Oxidizing properties:** none
- **Vapor Pressure:** Not applicable.
- **Density at 20°C (68°F):** 1.26 g/cm³ (10.51 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not applicable.
- **Evaporation rate:** Not applicable.
- **Solubility(ies)**
- **Water:** Soluble.
- **Partition coefficient (n-octanol/water):** Not applicable (mixture).
- **Viscosity:** Not applicable.
- **Kinematic:** Not applicable (solid).
- **Other information**
- **Solids content:** 100.0 %

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability**
Stable at ambient temperature (room temperature).
sensitivity to light
- **Possibility of hazardous reactions**
In contact with nitrites, nitrates or nitrous acid possible release of nitrosamines (carcinogenic)!
Contact with acids releases toxic gases.
Reacts with acids releasing sulfur dioxide.
Reacts with oxidizing agents.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Sulfur dioxide
In case of fire: see section 5.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

· **Acute toxicity estimate (ATE_(MIX)) - Calculation method:**

Oral	GHS ATE _(MIX)	969 mg/kg (.)
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• LD/LC50 values that are relevant for classification:		
CAS: 7681-57-4 disodium disulphite		
Oral	LD50	1540 mg/kg (rat) (OECD 401) (MERCK)
Dermal	LD50	>2000 mg/kg (rat) (RTECS)
CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate		
Oral	LD50	500 mg/kg (ATE)
	LD ₀₁	200 mg/kg (rat) (RTECS)
Dermal	LD50	>1000 mg/kg (guinea pig) (RTECS)
CAS: 7758-98-7 copper sulphate		
Oral	LD50	481 mg/kg (rat) (OECD 401) (Merck)
	LDLo	50 mg/kg (human)

• **Primary irritant effect:**

- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:**
Causes serious eye damage.
Risk of corneal clouding.

• **Information on components:**

CAS: 7681-57-4 disodium disulphite		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: severe irritations)

- **Sensitization:** May cause an allergic skin reaction.

• **Information on components:**

CAS 55-55-0: Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.

CAS: 7681-57-4 disodium disulphite		
Sensitization	OECD 406	(guinea pig: negative)

• **Carcinogenic categories**

• IARC (International Agency for Research on Cancer)	
None of the ingredients is listed.	
• NTP (National Toxicology Program)	
None of the ingredients is listed.	
• OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

• **Information on components:**

CAS 7681-57-4: Did not show carcinogenic effects in animal experiments (IUCLID).
 CAS 7681-57-4: No impairment of reproductive performance in animal experiments (IUCLID).
 CAS 7681-57-4: Did not show teratogenic effects in animal experiments.
 OECD 414: Teratogenicity testing
 OECD 473: Mutagenicity testing
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

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CAS: 7681-57-4 disodium disulphite

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

12 Ecological information

• Toxicity

• Aquatic toxicity:

CAS: 7681-57-4 disodium disulphiteEC50 89 mg/l/48h (Daphnia magna) (OECD 202)
(MERCK)IC50 48 mg/l/72h (Desmodesmus subspicatus) (OECD 201)
(MERCK)LC50 150–220 mg/l/96h (rainbow trout) (DIN 38412 Teil 15)
(Merck)**CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate**EC50 0.019 mg/l/96h (Daphnia magna)
(Merck)
0.25 mg/l/96h (fathhead minnow)
(Merck)**CAS: 7758-98-7 copper sulphate**EC50 0.02 mg/l/48h (Daphnia magna)
(ECOTOX)LC50 0.11 mg/l/96h (rainbow trout)
(ECOTOX)

• Bacterial toxicity:

sulfates toxic > 2.5 g/l

CAS: 7681-57-4 disodium disulphiteEC50 56 mg/l (Pseudomonas putida) (17h)
(IUCLID)

• Other information:

Toxic for fish:

sulfates > 7 g/l

copper ions at concentration below 1 mg/l

• Persistence and degradability

CAS 55-55-0: not easily biodegradable

CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulphate

OECD 301 D 30 % (.) (Closed Bottle Test)

• Bioaccumulative potential

No further relevant information available.

• Mobility in soil

No further relevant information available.

• Other adverse effects

Avoid transfer into the environment.

13 Disposal considerations

• Waste treatment methods

• Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

• Uncleaned packagings:

• Recommendation:

Disposal must be made according to official regulations.

• Recommended cleansing agent:

Water, if necessary with cleansing agents.

14 Transport information

• UN-Number

• DOT

none

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· IMDG, IATA	UN3077
· UN proper shipping name	
· DOT	none
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate, copper sulphate), MARINE POLLUTANT
· IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulphate, copper sulphate)
· Transport hazard class(es)	
· DOT	
· Class	none
· IMDG, IATA	
	
· Class	9 Miscellaneous dangerous substances and articles
· Label	9
· Packing group	
· DOT	none
· IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Hazard identification number (Kemler code):	90
· EMS Number:	F-A,S-F
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

*15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

CAS: 7758-98-7 | copper sulphate

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

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• Proposition 65

• Chemicals known to cause cancer:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

• Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

• New Jersey Right-to-Know List:

CAS: 7681-57-4 disodium disulphite

CAS: 7758-98-7 copper sulphate

• New Jersey Special Hazardous Substance List:

CAS: 7681-57-4 disodium disulphite

CO

• Pennsylvania Right-to-Know List:

CAS: 7681-57-4 disodium disulphite

CAS: 7758-98-7 copper sulphate

• Pennsylvania Special Hazardous Substance List:

CAS: 7758-98-7 copper sulphate

E

• EPA (Environmental Protection Agency)

None of the ingredients is listed.

• NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Relevant phrases

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

• **Date of preparation / last revision** 07/05/2021 / 13

• Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

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NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

• Sources

Data arise from safety data sheets, reference works and literature.

ECOTOX Database

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

• * Data compared to the previous version altered.

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